Public Works (1912.) Department.

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[Despatch Abstract.]

Anaiyur distributary of the Thandalai offtake, 4th Branch Channel, Periyar System. Sanctioning an estimate amounting to Rs. 15084 for changing the head of and improvements to the ———

P. W. 9.
2,000—22-7-10.

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BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

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Government of Madras.

PUBLIC WORKS DEPARTMENT.

IRRIGATION.
ACCOUNT.

Recd.	1912	*Enclosures*	
Regd.		*Spare copies.*	

G.O. No. 465 I., 28th October 1912.

Anaiyur distributary of the Thandalai offtake, 4th branch channel, Periyar system

Sanctioning an estimate amounting to Rs. 15,084 for changing the head of and improvements to the —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation
Account.

READ—the following papers :—

I

Letter—from C. MILDRED, Esq., A.M.I.C.E., Superintending Engineer, VI Circle.
To—the Chief Engineer for Irrigation.
Dated—Camp, Kodaikānal, the 20th May 1911.
No.—551 C.E.

I have the honour to forward herewith for your approval and sanction of Government an estimate amounting to Rs. 12,860 for changing the head of and improvements to the Anaiyur distributary, Thandalai offtake—Fourth Branch channel—Periyār system.

2. The details of, and the necessity for, the proposed improvements are fully and very clearly explained by the Executive Engineer in the report attached to the estimate.

3. The cost of the head sluice and the two other sluices at 2 miles 356 feet and 2 miles 3,363 feet which are now proposed to be replaced by new sluices on designs M. Nos. 319, 322, and 323 of 1910, respectively, is reported to be Rs. 270 and this amount should be written back from the Capital to the Revenue account of the Periyār system, with reference to Public Works Department Code, paragraph 1921.

4. It will be seen from the revenue statement attached to the estimate that an yearly additional revenue of Rs. 1,043 may be expected by carrying out the proposed improvements to the distributary, as an additional extent of 130·35 acres of dry lands given in the list attached to the estimate may be converted into double crop wet lands and brought under cultivation under the channel and the work may therefore be classified as one directly remunerative.

5. The cost of land entered in the estimate has, it is reported, been fixed by the Revenue Department.

6. The work will be completed before the end of 31st March 1913.

7. The rates entered in the estimate are fair and data sheets in support of the rates for important items are attached to the estimate. The estimate is recommended for sanction.

ENCLOSURES.

Report to accompany the estimate for changing the head and improvements to the Anaiyur distributary from Drop No. 4 of Thandalai offtake, Fourth Branch channel.

	RS.
Amount of estimate	12,860

Alignment.—The present Anaiyur distributary takes off above drop No. 7, Thandalai offtake from the right bank, runs in an awkward curve crossing a valley in embankment and then runs along a ridge. The alignment is defective for the following reasons :—

(1) It has necessitated a separate sluice from Thandalai offtake for the supply of Anaiyur tank which ought to have been supplied from the distributary itself, had it not been for its ineffective state at the embankment.

(2) Another tank called Thathaneri tank cannot be supplied with Periyār water though a channel has been taken in the foreshore of Anaiyur tank from the abovesaid Anaiyur tank supply channel. Besides the supply channel running just on the foreshore is always washed away.

(3) There are certain double-crop sale lands which are situated close to the old distributary near the embankment portion and to the right of it and to irrigate these the distributary itself has to be dammed up and water taken, the result being that complaints are numerous every year from these parts for want of proper supply.

(4) A 6-inch pipe sluice was built above Drop No. 5 Thandalay offtake and a long field channel has been excavated by the ryots in order to irrigate certain inam dry lands. This channel is found to be inadequate to do its function. With this end in view and in order to improve the distributary and the Anaiyur tank supply channel it has been proposed to start the Anaiyur distributary channel from the sluice taking off above Drop No. 4 of the Thandalay offtake by enlarging the same adequately and join it with the old one just above its Drop No. 2. It is believed the new alignment as now proposed will remedy the above defects.

The proposed alignment as can be seen from the ayacut map—*vide* plan No. M. 311/10 will be more or less one straight reach commanding all the dry and sale lands and other tank ayacut lands very easily.

Ayacut.—The ayacut under the new distributary head sluice—*vide* plan No. M. 319/10 has been carefully verified by sluicewar and villagewar, and is found to be 1,163·08 acres direct and to be 1,305·11 acres through tanks.

The alterations in the ayacut of the existing sluices which the proposal affects will be dealt with when the general ayacut verification for the whole channel in Thandalay offtake is undertaken.

Duty.—The Superintending Engineer in his No. 193, dated 11th January 1910, has decided upon having 90 duty for the system and so this is adopted for the channel, drops and sluices.

Head sluice.—The existing sluice at right bank above Drop No. 4 Thandalay offtake is found to be inadequate to discharge the full quantity required for the calculated ayacut even at a duty of 90. The head sluice will be reconstructed as per plan No. 319/1910 enclosed with screw-gearing arrangements. The rear cistern with connecting walls as shown in the plan is necessary to prevent ryots from interfering with the water in the different channels that branch off from it. The depth of water is taken to be only 2 feet in the Thandalay offtake, the same being the F.S.L. The original cost of the sluice now proposed to be reconstructed is approximately Rs. 100.

Channel.—The channel is designed to have a bedfall of 4 feet per mile, as 6 feet per mile which is the sanctioned bedfall in many channels is found to be unsuitable by experience and with this 4 feet per mile fall the soil will stand. The channelwill have an ordinary F.S.L. of 1·5 ft. and a maximum F.S.L. of feet which will be obtainable from Thandalay offtake when the ordinary F.S.L. so that the quantity running at O.F.S.L. will be enough for the direct ayacut at 90 duty and that running M.F.S.L. will be enough for the whole ayacut at the same duty. The channel goes almost throughout in cutting. (Please see L.S. and C.S. M. Nos. 313 to 318/1910.)

Drops.—The sill of the rear cistern of the new head sluice is + 95·87 and the bed of the old Anaiyur distributary channel where the new channel joins being + 54·12 there is a fall of 41·75 feet to be disposed of. Of this 7·25 feet has been absorbed by the bedfall allowed for the channel. It is proposed to make up the balance of 34·50 feet by constructing one 2½ feet drop at the head sluice itself and 4 other drops at convenient places with side sluices. They have been all designed trapezoidal up to the O.F.S.L. in order to facilitate irrigation of the direct ayacut quite economically and to allow free discharge at M.F.S.L. whenever the tank ayacuts require water. (Please see plans M. Nos. 320 and 321/1910 enclosed.) The two drops in the existing channel below the point of junction will be converted into trapezoidal ones and a L.S. Rs. 25 has been allowed in the estimate.

Sluices.—Six new sluices have been designed to irrigate their respective ayacuts with a 90 duty and they are located close to the drops so that there may not be much loss of head. The sluices in Thandalay offtake whose ayacuts have been changed on this account will be enlarged or reduced as the case may be, under a separate estimate under 42. Maintenance and Repairs when the ayacut statement is verified—*vide* last paragraph under " ayacut " above.

Besides the above, 2 sluices one at 2 M.356 and another at 2 M. 3,363 feet are proposed to be reconstructed as per plan Nos. M. 322 and 323/1910. The approximate original cost of these ... 70 and 90 respectively.

Cross drainages.—As the channel runs generally along the ridge there is practically no cross drainage to be passed. There is a small disused surplus channel from inam Melapanangady tank from its left flank leading to inam Keelapanangady tank. But this is ignored because the inam Melapanangady tank as a regular surplus escape at right flank and as such the one at the L.F. is unnecessary. It is understood that the Keelapanangady people use this occasionally with the permission of the Melapanangady people in times of scarcity. Keelapanangady and Melapanangady tanks receive Periyār water on application. For reasons stated above no cross drainage work is provided in the estimate.

Land statement.—Provision is also made in this estimate for compensation for land required for the newly aligned channel and also for demarcation and mile and furlong stones. The land plan and schedule accompanying will give the detail extent required to be acquired.

The cost of land has been fixed by the Collector of Madura—*vide* copy of letter R.O.C. No. 3733-Gl., dated 8th September 1910, enclosed.

Advantages derived.—The proposal of changing the head of the distributary and excavating a new channel will appear at first sight as unnecessary and expensive, but its advantages a[illegible] many :—

(1) The proposed channel and sluices will do away with 4 sluices in the Thandalay offtake from Drop No. 4 down to Drop No. 7, *i.e.*, the head of the present Anaiyur distributary *i.e.*, to say the wastage by leakage, etc., from these 4 is saved. The present head sluice of the distributary at Drop No. 7 will be reduced considerably.

(2) The proposal obviates an estimate (herewith resubmitted Superintending Engineer's No. 3716, dated 25th July 1909) as evidently the Anaiyur tank ayacut will be benefited by the right bank sluice above Drop No. 5 which has been designed to feed the tank ayacut.

(3) The proposal includes the tank ayacut of Thathaneri tank which at present gets very little or no positive Periyar supply under the right bank sluice above Drop No. 7.

(4) The finance question of the proposal seems to favour the execution as there is an extent of 130·35 acres of dry both Government and Inam lands readily convertible into wet, the water r ate income being per year at Rs. 8 an acre or Rs. 1,043 *in toto*.

Rates.—A data sheet is attached to the estimate and the rates are reasonable.

The levels were taken checked and plotted by sub-overseer Ambasankara Aiyar and are recorded in pages 42 to 61 and 17 to 21 of the field book Nos. 5 and 6 respectively—now with sub-overseer, Madura.

The work will be carried out as per standard specifications.

V. HART,
Offg. Executive Engineer, Madura Divn.

15th November 1910.

Letter—from A. BUTTERWORTH, Esq., I.C.S., Collector of Madura.
To—the Executive Engineer, Madura Division.
Dated—the 8th September 1910.
No.—R.O.C. 3733-Gl.

Referring to your letter No. 1107 R.M., dated 13th July 1910, I have the honour to forward herewith copy of a statement received from the Tahsildar of Madura giving the particulars asked for therein.

Valuation Statement.

Serial number.	Name of villages.	Survey numbers.	Dry, wet or dry to wet.	Patta or poramboke.	Probable amount of compensation per acre.	Remarks.
					RS.	
1	Boothagudy	4 B.	Dry to wet.	Patta.	500 (for Nos. 1–12)	
2	Do.	4 C.	Do.	Do.		
3	Do.	8	Do.	Do.		
4	Do.	10 A. 1	Do.	Do.		
5	Do.	10 A. 3	Do.	Do.		
6	Do.	14 A.	Do.	Do.		
7	Do.	14 B.	Do.	Do.		
8	Do.	18 E.	Do.	Do		
9	Do.	19	Do.	Do.		
10	Do.	19 B.	Do.	Do.		
11	Do.	21	Do.	Inam.		
12	Do.	22	Do.	Do.		
13	Veppangulam	22	..	..	300	Only this survey field belongs to Veppangulam village.
14	Kuruthangal	3	Dry to wet.	Patta.	500 (for Nos. 14–16)	(Jary). These survey fields belong to Kuruthangulam village though they are shown in Veppangu[illegible] plan.
15	Do.	4	Do.	Do.		
16	Do.	15	Do.	Do.		
17	Melapanangudi ..	1	Dry.	Inam.	300 (for Nos. 17–21)	This is an inam village.
18	Do.	2	Do.	Patta.		
19	Do.	7	Do.	Do.		
20	Do.	8	Do.	Do.		
21	Do.	9	Dry to wet.	Do.		
22	Keelapanangudi ..	4	Do.	Do.	500 (for Nos. 22–25)	Inam village.
23	Do.	5	Do.	Do.		
24	Do.	26	Do.	Do.		
25	Do.	27	Do.	Do.		
26	Anaiyur	31 A.	Do.	Do.	300 (for Nos. 26–28)	31 A. & B. are patta dry lands and poramboke, 31 C. auction land and poramboke.
27	Do.	31 B.	Do.	Do.		
28	Do.	31 C.	Do.	Do.		
29	Do.	29	Wet.	Do.	300	29, auction land.
30	Do.	30	Dry.	Do.	300	
31	Do.	28	Do.	..	..	

ANAIYUR DISTRIBUTARY.

List of survey numbers which are likely to be converted into double crop wet.

Number.	Survey number.	Name of village.	Extent.	Total.	Remarks.
			ACS.		
I	22	Veppangulam	6·80		Inam.
	23	Do.	10·16		
	24	Do.	1·76	18·72	
II	1	Melapanangudi	3·93		Do.
	2	Do.	6·99		
	3	Do.	12·25		
	6	Do.	4·33		
	7	Do.	11·33		
	8	Do.	2·96	41·79	
III	2	Keelapanangudi	1·28		Do.
	3	Do.	7·18		
	27	Do.	8·19	16·65	
IV	29	Anaiyur	2·14		Government.
	30	Do.	1·78		
	31	Do.	4·39		
	131	Do.	6·20		
	130	Do.	1·33		
	293	Do.	18·08		
	295	Do.	8·05	41·97	
V	30	Sammandar Alangulam	1·78		Inam.
	29	Do.	2 14		
	28	Do.	1·20		
	26	Do.	0·84		
	25	Do.	5·26	11·22	
		Total ..	..	130·35	

NOTE.—These lands are now patta dry and there are no Government waste lands yet to be sold. Hence only revenue at double crop wet at Rs. 8 per acre will be profitted to Government.

Revenue statement to accompany the estimate for improvements to the Anaiyur distributary.

Name of village, taluk, tank, etc.	Existing wet.			Patta dry.		Total revenue.
	Area in acres.	Revenue at Rs. 8 double crop.	Increase in revenue.	Area in acres.	Revenue as double crop wet Rs. 8.	
		RS.			RS.	RS.
Buthakudi, Veppangulam, Kurandangulam, etc., villages in Madura taluk	1,812·39	14,499	..	130·35	1,043	15,542

Remarks.—The work is remunerative taking as a whole.

Ayacut statement by sluicewar system in the new alignment.

No.	Mileage.	Description.	Direct ayacut.	Through tanks.	Total.	Remarks.
	MILES. FEET.	DROP No. I.	ACS.	ACS.	ACS.	
1	0 2,970	Masonry sluice, right bank	103·08	157·14	260·22	
2	0 2,970	Do. left bank	47·08	31·49	78·57	
3	1 990	Do. right bank . ..	32·15	.	32·15	
[illegible]	1 990	Do. left bank	23·44	29·35	52·79	
[illegible]	1 2,970	Do. right bank	24·88	124·46	149·34	Anaiyur tank.
6	1 2,970	Do. left bank	137·32	..	137·32	
7	2 204	Ty pipe sluice, right bank	30·59	..	30·59	
8	2 356	Do. with front and rear heads.	142·00	170·12	312·12	Sokkikulam and Bilukulam.
9	2 1,066	Masonry sluice, right bank	55·39	..	55·39	
10	2 1,066	Ty pipe sluice, left bank .. .	28·02		28·02	
11	2 3,168	Masonry sluice, left bank	61·22	..	61·22	
12	2 3,363	Do. right bank	58·43	354·92	413·35	Tattaneri tank.
13	2 4,721	Ty pipe with front and rear heads ..	48·91	..	48·91	
		Tail end	52·23	..	52·23	
			45·89	184·63	230·52	Sellur tank.
			890·63	1,052·11	1,942·74	

Tabular statement to accompany

Distance from head.	Name of work.	Channel.							Discharge.			Cross drainage.		
		Area irrigable.	Bed width.	Depth of water full supply.	Depth of water maximum.	Side slope.	Bed fall.	Width of land occupied.	Mean velocity.	Discharge calculated.	Discharge required.	Area of drainage basin.	Calculated flood discharge.	Discharge provided for.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
MILE. FEET.	CHANGING THE HEAD AND IMPROVEMENTS TO THE ANAIYUR DISTRIBUTARY.	ACS.	FT.	FT.	FT.	1 IN.	1 IN.	FT.	FT. PER SECOND.	C. FT. PER SECOND.	C. FT. PER SECOND.	SQUARE MILES.	C. FT. PER SECOND.	C. FT. PER SECOND.
	First reach.													
	0 to 0–2970 feet F.S.L. ..	891	4	1½	2½	1½ / 1	1 / 1,320	36	1·27	9·08*	9·9	..	..	..
	M.W.L...	1,943							1·74	22·90	21·58			
	(Head sluice)	..	..	..	..	..	..	..	.	..	..	..	..	..
0 0	Drop No. I (in rear cistern)	1,943	..	..	..	..	..	..	.	9·91 23·73	..	..	..	..
0 1,320	Drop No. II do.	1,943	..	..	..	..	..	..	..	9·91 23·73	..	..	..	..
0 2,970	Masonry sluice, right bank	1,683	..	..	..	..	..	..	..	..	..	..	..	..
0 2,970	Do. left bank..	1,604	..	..	..	..	..	..	..	..	..	..	..	..
..	Drop No. III	1,604	..	..	..	..	..	..	..	9·91 23·73	..	..	..	..
	Second reach.													
	0–2970 to 1–990 F.S.L. ..	740	3½	1½	2½	1½ / 1	1 / 1,320	44	1·17	7·47	8·23	..	..	..
	M.W.L...	1,604							1·66	19·83	17·82			
1 990	Masonry sluice, right bank	1,572	..	..	..	..	..	..	..	..	..	..	..	..
1 990	Do. left bank..	1,519	..	..	..	..	..	..	..	..	..	..	..	..
..	Drop No. 4	1,519	..	..		..	..	..	..	..	..	..	..	..
	Third reach.													
	1–990 to 1–2970 F.S.L. ..	685	3½	1½	2¼	1½ / 1	1 / 1,320	52	1·17	7·47	7·61	..	..	..
	M.W.L...	1,519							1·56	16·34	16·88			
1 2,970	Masonry sluice, right bank	1,370	..	..		..	..	..	..	..	..	..	..	..
1 2,970	Do. left bank..	1,232	..	..	..	..	..	..	..	..	..	..		..
..	Drop No. V	1,232	..	..	..	..	..	..	..	..	..	..	..	..
	Fourth reach.													
	1–2970 to 2–1093 F.S.L...	523	3	1½	2¼	1½ / 1	1 / 1,320	54	1·17	6·61	5·81	..	..	..
	M.W.L. ..	1,232							1·54	13·87	13·69			

estimate for irrigation projects.

Falls. Bays. Number.	Falls. Bays. Width.	Falls. Crest level above and below.	Bridges. Openings. Number.	Bridges. Openings. Span.	Bridges. Width of roadway	Reduced level of bed.	Sluices. Description.	Sluices. R or L bank.	Sluices. Number and area of vent.	Sluices. Acreage.	Sluices. Sill level.	Remarks.
16	17	18	19	20	21	22	23	24	25	26	27	28
	FEET.	FEET.		FT.	FEET.	FEET.						
..	..	..	..	..	..	95·87	..	..	..	..	..	* The discharge in this column is calculated with ½ to 1 slope to be on the safe side using Bazin's co-efficients as there is a tendency for the side slopes to wear steeper than 1½ : 1 proposed for the channel cutting. The channel with 1½ to 1 slope can discharge the maximum required quantity even with M.W.L. 2 feet above bed at start. The cistern of the head sluice is under regulation. Higham's tables have been used in calculating the discharge.
..	..	..	..	..	..	95·87	Masonry.	R.B.	1 / 4′ × 2′	..	95·87	
1	4′	{ 95·87 / 93·37 }	..	..	..	95·87	..	..	..	..	..	
1	·19 : 1; 1·20	{ 92·37 / 84·37 }	..	..	..	92·37	..	..	..	..	..	
..	..	..	..	..	..	83·12	Masonry.	R.B.	1 / 14″ × 12″	260·22	83·12	
..	..	..	..	..	..	83·12	Do.	L.B.	1 / 10″ × 5″	78·57	83·12	
1	·19 : 1; 1·20	{ 83·12 / 75·12 }	..	..	..	83·12	..	..	..	..	..	
..	..	..	..	..	..	76·12	..	..	..	..	..	
..	..	..	..	..	..	72·62	Masonry.	R.B.	1 / 5″ × 4″	32·15	72·62	
..	..	..	..	..	..	72·62	Do.	L.B.	1 / 6″ × 6″	52·79	72·62	
1	·098 : 1; 1·09	{ 72·62 / 64·62 }	..	..	..	72·62	..	..	..	..	..	
..	..	..	..	..	..	64·62	..	..	..	..	..	
..	..	..	..	..	..	63·12	Masonry.	R.B.	1 / 12″ × 8″	149·34	63·12	
..	..	..	..	..	..	63·12	Do.	L.B.	1 / 10″ × 9″	137·32	63·12	
1	·12 : 1; 1·12	{ 63·12 / 55·12 }	..	..	..	63·12	..	..	..	..	..	
..	..	..	..	..	..	55·12	..	..	..	..	..	

Tabular statement to accompany

Distance from head.	Name of work.	Channel: Area irrigable.	Channel: Bed width.	Channel: Depth of water full supply.	Channel: Depth of water maximum.	Channel: Side slope.	Channel: Bed fall.	Channel: Width of land occupied.	Discharge: Mean velocity.	Discharge: Discharge calculated.	Discharge: Discharge required.	Cross drainage: Area of drainage basin.	Cross drainage: Calculated flood discharge.	Cross drainage: Discharge provided for.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
MILE. FEET.		ACS.	FT.	FT.	FT.	1 IN.	1 IN.	FT.	FEET PER SECOND.	C. FT. PER SECOND.	C. FT. PER SECOND.	SQUARE MILES.	C. FT. PER SECOND.	C. FT. PER SECOND.
	Fourth reach—cont.													
	1·2970 to 2·1093 { F.S.L.	523	} 3	1½	2¼	1½ / 1	1 / 1,320	54	{ 1·17	6·61	5·81	} ..	..	..
	M.W.L.	1,232							1·54	13·87	13·59			
2 204	Temporary pipe sluice ..	1,201	..	..	..	..	..	..	..	..	..	..	..	..
2 356	Temporary pipe sluice with front and rear heads to be reconstructed by masonry.	889	..	..	..	..	..	..	..	..	..	..	..	..
2 1,066	Temporary pipe sluice with front and rear head walls.	834	..	..	..	..	..	..	.	..	..	..	..	..
2 1,066	Temporary pipe sluice ..	806	..	..	..	..	..	..	..	..	..	..	..	..
	Drop No. 6	806	..	..	..	..	..	..	..	..	..	..	..	..
	Fifth reach.													
	2·1093 to 2·3729 { F.S.L.	267	} 1¼	1½	2½	1½ / 1	1 / 1,000	..	{ ·963	2·90	2·96	} ..	..	..
	M.W.L.	806							1·37	8·55	8·96			
2 3,168	Masonry sluice, left bank.	745	..	..	..	..	..	..	..	..	..	..	..	..
2 3,363	Do. to be reconstructed.	332	..	..	..	..	..	..	..	..	..	..	..	..
2 3,729	Drop No. 7	332	..	..	..	..	..	..	..	..	..	..	..	..
	Tail end.													
	F.S.L	147	} 1	1	1¾	1½ / 1	1 / 500	..	{ ·97	1·45	1·63	} ..	..	..
	M.W.L.	332							1·37	4·48	3·69			
2 4,721	Temporary pipe with front and rear heads.	283	..	..	..	..	..	..	..	..	..	..	..	..
	Tail end lands	283	1	1	1¾	1½ / 1	1 / 500	..	{ ·97	1·45	1·63	} ..	..	..
									1·37	4·43	1·69			

15th *November* 1910.

estimate for irrigation projects—*cont.*

Falls.			Bridges.				Sluices.					
Bays.		Crest level above and below.	Openings.		Width of roadway.	Reduced level of bed.	Description.	R or L bank.	Number and area of vent.	Acreage.	Sill level.	Remarks.
Number.	Width.		Number.	Span.								
16	17	18	19	20	21	22	23	24	25	26	27	28
	FEET.	FEET.		FT.	FEET.	FEET.						
..	..	..	..	..	..	55·12	..	..	..	..	..	
..	..	..	..	..	..	52·58	Temporary pipe.	R.B.	6″ dr.	30·59	52·58	
..	..	..	..	..	..	52·99	Do.	L.B.	9″ dr.	312	52·90	To be reconstructed by a masonry sluice with vent 12″ × 12″.
..	..	..	..	..	..	52·34	Do.	R.B.	9″ dr.	55·39	52·34	
..	..	..	..	..	..	51·90	Pipe.	L B.	9″ dr.	28·02	51·90	
1	·1 : 1; ·9	52·73 / 46·73	..	..	..	52·73	..	..	..	..	..	
..	..	..	..	..	..	46·73	..	..	..	..	..	
..	..	..	..	..	.	44·70	Masonry.	L.B.	12″ × 4″	61·22	44·70	
..	..	..	..	..	..	43·83	Do.	R.B	12″ × 15″	413·0	43·83	To be reconstructed by a sluice with vent 16″ × 12″.
1	·04 : 1; ·5	44·13 / 38·13	..	..	..	44·13	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	36·25	Pipe.	R.B.	6″ dr.	48·91	36·25	
..		..	..	..	..	..	..	..	..	282·75	..	

V. HART,
Offg. Executive Engineer, Madura Division.

II

Memorandum R.O.C. No. 1389/11, dated 29th August 1911.

With reference to letter No. 551 C.E., dated 20th May 1911, from the Superintending Engineer, VI Circle, submitting for sanction an estimate for changing the head of and improvements to the Anaiyur distributary, Periyar system, the Chief Engineer for Irrigation has the honour to observe that by carrying out the proposed improvements an additional annual revenue of Rs. 1,043 may be expected and an additional extent of 130·35 acres of dry lands may be converted into double crop wet lands. But from the papers received there is nothing to show that the Collector has approved the proposal. The Superintending Engineer is therefore requested to obtain and communicate his opinion on the subject.

H. E. CLERK,
Chief Engineer for Irrigation.

To the Superintending Engineer, VI Circle.

III

To the Supg. Engr.,	VI Circle,	R.O.C. No. 1389/11, 9th December 1911.
From the ,,	VI ,,	No. 1453 C.E./716, 18th December 1911.
To the ,,	VI ,,	No. 1389/11, 20th February 1912.
From the ,,	VI ,,	No. 253 C.E./716, 24th February 1912.

IV

Letter—from A. R. KNAPP, Esq., I.C.S., Collector of Madura.
To—the Superintending Engineer, VI Circle.
Dated—the 27th February 1912.
No.—R.O.C. 3812/Gl. of 1911.

With reference to your reminder No. 1217, dated 24th February 1912, I have the honour to state that a statement showing the additional revenue that may be expected by the proposed improvements called for from the Deputy Collector, Melur Division, on 24th January 1912, has not yet been received, and a reminder has also been sent to him on 24th February 1912. Reply will be made as soon as the statement is received.

No. 296 C.E./716, dated 5th March 1912.

Forwarded to the Chief Engineer for Irrigation, for information in continuation of this office No. 253-C.E./716, dated 24th February 1912.

S. B. MURRAY,
Superintending Engineer, VI Circle.

V

To the Supg. Engr., VI Circle,	R.O.C. No. 1389/11, 16th May 1912.
From the ,, VI ,,	No. 621 C.E./716, 28th May 1912.

VI

Letter—from A. R. Knapp, Esq., I.C.S., Collector of Madura.
To—the Superintending Engineer, VI Circle.
Dated—the 7th June 1912.
No.—D. Dis. 1857-Rev.

With reference to your letter No. 6275, dated 5th October 1911, I have the honour to state that, according to the reports received, there is no objection to the proposed alterations to the Anaiyur distributary, fourth branch channel, being carried out, but that the increase of revenue would be only Rs. 324-9-0. Copies of the report and statement received from the Tahsildar of Madura explaining how that amount has been arrived at, are sent herewith; from which it will be seen that the difference between the amount estimated by the Executive Engineer and that reported by the Tahsildar appears to be chiefly due to the fact that the Executive Engineer has taken into account also the revenue that is now derived and shown in column 9 of the statement.

Enclosures.

Name of village.	Survey Numbers.	Extent.	One crop raised.	Two crops raised.	Waste.	Other Poramboke.	Total Revenue expected.	Revenue now derived.	Gain.	Remarks.
1	2	3	4	5	6	7	8	9	10	11
		ACS.	ACS.	ACS.	ACS.	ACS.	RS. A.	RS. A.	RS. A.	
Veppangulam ..	22	6·80	2·50	..	..	..	..	..	..	
	23	10·16	3·5	..	..	..	..	..	..	
	24	1 76	0·40	..	..	..	..	..	..	
	..	13·72	5·95	..	12·77	..	131-4	24-0	107-4	
Sambandaralangulam. ..	25	5·26	..	..	..	..	..	..	..	
	26	0·84	..	..	..	..	..	..	..	
	28	1·20	..	..	..	..	..	..	..	
	29	2·14	..	..	..	..	..	..	..	
	30	1·78	..	..	..	..	..	..	..	
	..	11·22	11.22	..	..	..	78-12	45-0	33-12	
Melapanangudy	1	3·93	2·39	..	..	..	..	..	..	
	2	6·99	4·61	..	..	..	..	..	..	
	3	12·75	..	11·83	..	..	..	..	..	
	6	4·33	2·80	..	..	..	..	..	..	
	7	11·33	9·33	..	..	..	..	..	..	
	8	2·96	1·96	..	..	..	..	..	..	
	..	41·79	21·9	11·83	8·87	..	292-4	168-0	124-4	
Keelapanangudy	2	1·28	..	1·28	..	..	..	..	..	
	3	7·18	..	7·18	..	..	..	..	..	
	27	8·19	..	8·19	..	..	..	..	..	
	..	16·65	..	16·65	..	..	116-8	116-8	..	
Ar[illegible]ur ..	29	2·14	2·14	..	..	..	..	..	..	
	30	1·78	1·50	..	..	Vaikal ·8	..	..	..	Double crop. Total extent for the number is only 1·58 and 1·78.
	31	4·39	1·81	1·74	..	Do. ·71	..	..	..	
						Path ·13				
	131	6·20	1·77	4·0	..	Do. ·43	..	..	..	
	130	1·33	0·93	0·40	..	Odai ·50	..	..	..	
	293	18·8	13 58	..	..	Tanks 2·25 Proposed for sale 1·75	..	..	..	Double crop land.
	295	8·5	8·0	..	..	Well ·5	..	..	..	
		41·97	29·73	6·14	..	5·90	325-0 * 17-1	282-12	59-4	*Land proposed for sale.
Total..	..	130·35	67·99	34·62	21·64	5·90	944-12 17-1	636-4	324-9	
			130·15 (cols. 4–7)							

Letter—from the Tahsildar of Madura.
To—Deputy Collector of Melur division.
Dated—the 4th April 1912.
No.—D.Dis. 570.

With reference to your No. R.O.C. 55/Collr. of 1911, dated 30th January 1912, I beg to submit herewith a statement showing the amount of additional revenue that may be expected by carrying out the improvements in the Anaiyur distributary.

	ACS.
Extent raised with one crop ..	67·99
Do. two crops ..	34·62
Waste ..	21·64
Vaikal ..	·79
Odai ..	·50
Path ..	·56
Tank ..	2·25
Well ..	·5
Proposed for sale ..	1·75
	130·15
The extent as per Executive Engineer's letter ..	130·35
Difference ..	·20

The Executive Engineer has taken the extent as 1·78 for S. No. 30 instead of 1·58 which is its ayacut.

Out of the total extent 130·35 acres one crop is being raised on an extent of 67·99 acres and two crops 34·62 acres; 21·64 acres are left waste and out of 5·90 acres an extent of 4·15 acres are covered by path, odai and vaikal and well and 1·75 has been proposed for sale as double crop land—*vide* details in the margin.

Total revenue that can be expected by the improvement is Rs. 944–12–0. But the revenue now derived by the existing channel is Rs. 636–4–0. The gain that can be expected is Rs. 324–9–0.

No. 759 C.E./716, dated 1st July 1912.

Copy submitted to the Chief Engineer for Irrigation for information with reference to his Memorandum No. R.O.C. 1389/11, dated 29th August 1911.

S. B. MURRAY,
Superintending Engineer, VI Circle.

VII

Note by the Chief Engineer for Irrigation, R.O.C. No. 1389/11, dated 3rd September 1912.

With his letter No. 551 C.E., dated 20th May 1911, the Superintending Engineer, VI Circle, submitted an estimate amounting to Rs. 12,860 for changing the head of, and improvements to, Anaiyur distributary of Thandalai offtake, 4th Branch channel, Periyar system. In this office R.O.C. No. 1389 of 1911, dated 29th August 1911, the Superintending Engineer was requested to obtain and communicate the opinion of the Collector in connection with the increase of revenue anticipated by the Superintending Engineer. With his endorsement No. 759 C.E., dated 1st July 1912, the Superintending Engineer forwards a copy of Collector's D. Dis. No. 1857 Rev., dated 7th June 1912, together with copies of Tahsildar's letter and statement showing revenue particulars, in which it is stated that there is no objection to the proposed alterations to the Anaiyur distributary but that the expected increase of revenue would be only Rs. 324–9–0 against Rs. 1,043 anticipated by the Superintending Engineer.

2. The Anaiyur distributary takes off at present from the right bank of the Thandalai offtake above drop No. 7 and runs in an awkward curve crossing a valley in embankment. Its present alignment is reported to be defective for the reasons given in the report accompanying the estimate. It is now proposed to shift its head higher up so that it may start from the sluice above drop No. 4 of the Thandalai offtake and to cut a channel from it to join the old one at about 5 furlongs below its head. The total ayacut proposed to be commanded by the distributary is 2,468·19

acres of which 1,163·08 acres is direct irrigation and 1,305·11 acres indirect through tanks. The estimate provides for—

	RS.
1. Constructing a new head sluice	805
2. Excavating new cut from head sluice to join the old course ..	2,730
3. Constructing 4 drops in the new cut	4,335
4. Re-constructing two sluices and providing a temporary pipe sluice.	310
5. Converting the rectangular notches of the two drops in the existing distributary into trapezoidal notches	25
6. Land compensation	4,580
7. Demarcation	75
	12,860

Item 1—*Head sluice.*—The present sluice in the right bank of the Thandalai offtake, just above drop No. 4, is too small ; it is therefore proposed to re-construct it providing sufficient waterway to give the requisite discharge for the ayacut under the distributary. A cistern has been provided in rear of the sluice with vents of 12″ and 3″ diameter in the right and left side walls respectively and two vents one 4 feet and the other $1\frac{1}{4}$ feet wide in the rear wall. The 4 feet vent is intended to supply the new cut of the distributary having an ayacut of 1,942·74 acres. The other three vents together irrigate 525·45 acres direct. The thickness of the base of the training walls in rear of the cistern has been increased from $1\frac{1}{2}$ feet provided in the estimate to $2\frac{1}{2}$ feet.

Item 2—*New cut.*—The new cut from head sluice down to its junction with the old course is 1 mile $6\frac{1}{2}$ furlongs long and is divided into four reaches ; the bed width varies from 4 to 3 feet with a bed fall of 4 feet per mile and a depth of $1\frac{1}{2}$ feet at F.S.L., and $2\frac{1}{2}$ feet at M.W.L. The capacity at F.S.L. will be 10 cusecs for the irrigation of 891 acres direct. The same channel with a depth of $2\frac{1}{2}$ feet at M.W.L. will discharge 22 cusecs and thus supply both direct irrigation and tanks with a total ayacut of 1,052 acres. Banks have been provided where necessary with a margin of 2 feet above M.W.L. and top widths of 5 feet on one side and 3 feet on the other side with side slopes $1\frac{1}{2}$ to 1.

Item 3—*Drops.*—Four 8 feet drops with trapezoidal notches will be constructed in the new cut. The last three drops have been combined with side sluices in front to supply direct irrigation. The type-design of the drops has been revised in this office allowing a reversed slope of 1 in 5 with dry stone pitching and sufficient side and bed protection in front and rear.

3. The alterations made in this office have raised the amount of the estimate from Rs. 12,860 to Rs. 13,120. Although the expected increase in revenue is very small, *i.e.*, Rs. 325, as reported by the Collector, the re-alignment of the distributary as proposed is considered advisable in the general interests and economical working of the system. The estimate as altered in this office is recommended for sanction.

4. The approximate cost of the original sluices proposed to be replaced, viz., Rs. 270 will be written back from the Capital to the Revenue account of the Periyar system.

H. E. CLERK,
Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department,
General and Irrigation.

ENCLOSURE.

ESTIMATE FORM—*Abstract*—Classified.

Sub-head.	Names of works.	Amount of estimate for individual works.	Total of sub-heads.	Total for each canal or distributary.	Total of each main head.
1	2	3	4	5	6
	IMPERIAL.	RS.	RS.	RS.	RS.
	CAPITAL EXPENDITURE NOT CHARGED TO REVENUE.				
	49. *Irrigation.*				
	PERIYAR SYSTEM.				
	Open Capital Accounts.				
	Remunerative.				
	I. Works.				
	3. Distributaries.				
	Changing the head and improvements to the Anaiyur distributary from drop No. 4, Thandalai offtake, IV branch channel	..			
B. Land ..	Acquiring land for the new alignment of the channel.	4,580			
	Total ..	..	4,580		
C. Works ..	Head sluice with drop	880			
	Drop No. 2	910			
	,, ,, 3 with side sluices	* 1,175			
	,, ,, 4 do.	1,175			
	,, ,, 5 do.	1,175			
	Rebuilding sluice at 2 miles 356 feet	135			
	Do. at 2 miles 3,168 feet	145			
	Constructing a temporary sluice	30			
	Converting the 2-rectangular drops into trapezoidel ones	25			
	Total ..	..	5,650		
L. Earthwork ..	Channel cutting and embankment	2,815			
	Total ..	..	2,815		
O. Miscellaneous.	Demarcation, mile and furlong stones. etc. ..	75			
	Total ..	..	75		
	Total for I Works ..	..	..	13,120	
	II Establishment ..	..	..	1,964	
	Total ..	..	..	..	15,084

* In this Rs 35 has been deducted for the saving under front returns of drops which are unnecessary when side sluices are proposed.

Order—No. 465 I., dated 28th October 1912.

The estimate for changing the head of and making improvements to the Anaiyur distributary of the Thandalai offtake, 4th branch channel, Periyār system, amounting to Rs. 13,120 or Rs. 15,084 including the establishment charge, is sanctioned.

2. This sanction is registered as No. 89 I. of 1912-13 and will expire on the 31st March 1914.

3. The work is classed as "Remunerative".

4. The attention of the Accountant-General is drawn to paragraph 4 of the foregoing note by the Chief Engineer for Irrigation.

(True Extract.)

Under Secretary to Government, P.W.D.,
Irrigation.

To the Chief Engineer for Irrigation.
,, Superintending Engineer, VI Circle, with plans and estimates.
,, Revenue Department.
,, Financial Department.
,, Accountant-General, Madras.

4516

PUBLIC WORKS DEPARTMENT.

(Irrigation Branch.)

CHIEF ENGINEER FOR IRRIGATION. 19 DEC 1911 ROC No. 1389/11

2055 16-DEC 1911

REMINDER. on R.O.C. 1389/11 29.8.11

To

The Superintending Engineer VI circle.

The undersigned has the honour to invite attention to the ~~Order~~ R.O.C.* No. 1389/11, dated 29th August 1911 and to request that this reminder may be returned at once with information in the margin as to—

(1) the stage at which the matter now is,

(2) the date by which a reply may be expected ~~and~~,

~~(3) the circumstances which have caused the delay.~~

9/12/11

MADRAS,

191

For *Chief Engineer for Irrigation.*

6.12.11

5.12.11

* *Subject.*

Changing of the head of, and improvements to, the Anaiyur distributary, Periyar System — Requesting the Supg. Engr. to obtain and communicate the opinion of the Collector in regard to the proposed—

15.12.11

REPLY.

To

THE CHIEF ENGINEER FOR IRRIGATION,

Madras.

1453 E

No. 716 18-XII-11

The Collector has been addressed & his reply is awaited. He is being reminded & a reply may be expected in about one month.

18.12.11

For Supdg Engr VI circle

18/12/11

10/12

16/12

11/46 R. No. 374 CE 22/2/12

PUBLIC WORKS DEPARTMENT.

(Irrigation Branch.)

REMINDER. on 1389/11

To

~~Supg. Engr~~
~~6th Circle~~

The undersigned has the honour to invite attention to the ~~Order~~ R.O.C. No. 145 3CE/516 dated 18-12-11 and to request that this reminder may be returned at once with information in the margin as to—

(1) the stage at which the matter now is,

(2) the date by which a reply may be expected and

(3) the circumstances which have caused the delay.

[signature] 20/2/12

MADRAS,

191

For *Chief Engineer for Irrigation.*

US 20.2.12

* *Subject.*

Changing of the head of, & improvements to the Anupir distributary Periyar system:- Stating that the opinion of the collector in regard to the proposed — is still awaited.

D 23/7/12 | RC

PL 20/7/12

CHIEF ENGINEER FOR IRRIGATION. 26 FEB 1912 R.O.C. 1389/11

REPLY.

No. 25-3 CE 716 24.2.12

To

THE CHIEF ENGINEER FOR IRRIGATION,

Madras.

The Collector has not yet replied to the reference made to him & he is being requested to state when a reply may be expected. The probable date of disposal of the E.E's reference will be intimated after hearing from the Collector.

[signature] 24.2.12

for Supdg. Engr. 6th Circle

No. 24/2/12

20-49

SUPERINTENDING ENGINEER
535-CE
20 MAY 1912

PUBLIC WORKS DEPARTMENT.

(Irrigation Branch.)

CHIEF ENGINEER FOR IRRIGATION.
30 MAY 1912
No. ROC 13.89/11

III REMINDER. on Roc 1389/11

To

The Supg: Engineer
VI circle

The undersigned has the honour to invite attention to the ~~Order~~ S.E's ~~R.O.C.~~* No. 296 CE/716, dated 5th March 1912 and to request that this reminder may be returned at once with information in the margin as to—

(1) the stage at which the matter now is,

(2) the date by which a reply may be expected and ~~and~~,

(3) ~~the circumstances which have caused the delay.~~

[signature] 14/5/12

MADRAS,

191

For *Chief Engineer for Irrigation.*

Rd 13/5/12

** Subject.*

Changing of the head of, and improvements to the Anaiyur Distributary, Periyar System: —— Stating that certain information regarding —— is awaited from the Revenue Divisional Officer Melur Division.

Rw 20/5/12

✓

REPLY. No. 621 CE/716 dt 28-5-12.

To

THE CHIEF ENGINEER FOR IRRIGATION,

Madras.

pp 47-48 cf

Nothing further has been heard from the Collector. He has been requested to state when a reply may be expected.

S. Srinivasa 26/5/12

Supdg Engr / Circle

Rw 23/5/12

Rf ..1/12

PUBLIC WORKS DEPARTMENT.
(IRRIGATION BRANCH.)

NOTES CONNECTED WITH G.O. No. 465 I., DATED 28TH OCTOBER 1912.

[SUBJECT.—*Estimate for changing the head of, and improvements to, the Anaiyur distributary of the Thandalai offtake, 4th Branch channel.*]

Note by the Chief Engineer for Irrigation, dated 3rd September 1912, *R.O.C. No.* 1389/11.

Under Secretary—

A draft order approving the estimate for changing the head of, and making improvements to, the Anaiyur distributary of the Thandalai offtake 4th Branch channel, Periyar system, is submitted. The necessity for the work is explained in the Chief Engineer for Irrigation's note. The draft order may be forwarded to Financial and Revenue for acceptance before circulation to the Honourable Member.

B.G.R.—3-9-12.

F. E. MORGAN—3-9-12.
H. E. CLERK—3-9-12.

To the Revenue } *Department u.o.*
" " Financial }

REVENUE DEPARTMENT.

Under Secretary—

The proposed outlay is Rs. 13,120 and the expected additional revenue is Rupees 325 according to the Tahsildar's report in his D. Dis. No. 570, dated 4th April 1912. The return is about 2·5 per cent. The return being low, it is proposed to carry out the work as an unremunerative one, " being considered advisable in the general interests and economical working of the system. "

The Executive Engineer has reported that the present alignment of the Anaiyur distributary is defective on four grounds enumerated at the commencement of the report accompanying the estimates, and he has also explained the advantages to be derived from the proposed change of the head of the distributary. But the Collector's recommendation in support of the proposed alteration seems to be not strong because he simply states " There is no objection to the proposed alterations to the Anaiyur distributary 4th Branch channel, being carried out, but the increase of revenue would be Rupees 324-9-0—*vide* his letter D. Dis. No. 1857, Revenue, dated 17th June 1912. As it is represented that the change will tend to more economical distribution of water, it is submitted that this department may accept the draft order.

R.S.—7-9-12.

Secretary—

L. J. P. JOLLY—7-9-12.

Accepted in Revenue.

L. M. WINCH—9-9-12.

FINANCIAL DEPARTMENT.

Attention is solicited to the Chief Engineer's note dated 3rd September 1912, in which is explained the necessity for the work now proposed, viz., changing the head of, and carrying out improvements to, the Anaiyur distributary of Thandalai offtake, 4th Branch channel, Periyar system. The estimate comes to Rs. *13,120, and inclusive of establishment charges to Rupees 15,084; and the charge is debitable to the Open capital account of the Periyar system under the Imperial head 49—IRRIGATION CAPITAL EXPENDITURE NOT CHARGED TO REVENUE. The additional revenue that will accrue, viz., Rs. 324 is small· but as the work now in question is required in the general interests and economical working of the system the proposed improvements may be accepted. The sanction of the Government of India is necessary. The draft may, it is submitted, be accepted in Financial.

* Includes land compentation charges of Rs. 4,580.

* Paragraph 1919 (v) (*a*) Public Works Code Vol I.

A.S.—20-9-12.

C. REILLY - 23-9-12.

A. G. CARDEW—25-9-12.

To the Public Works Department (Irrigation) u.o.

PUBLIC WORKS DEPARTMENT
(IRRIGATION BRANCH.)

Under Secretary—

The draft order may now be circulated to the Honourable Member.

M.S.—27-9-12.

B.G.R. - 30-9-12.

Secretary—

F.E.M.—1-10-12.

Honourable Member—

H.E.C.—1-10-12.

H. A. S[TUART]—2-10-12.

Under Secretary—

The draft order may now issue.

M.S.—2-10-12.

B.G.R.—2-10-12.

Issue.

F.E.M.—3-10-12.

Under Secretary—

As the amount of the estimate is not more than Rs. 15,000 for "works" alone, it can be sanctioned by the Local Government itself whether the work is classed as "remunerative" or "unremunerative" *vide* paragraph 1919-V (*a*) and (*b*) of the Public Works Department Code, Volume II, as amended by Standing Orders No. 98 and 100, dated 10th January 1911, and No. 118, dated 8th August 1911. Necessary corrections have been made in the draft order. Submitted that the draft letter to India be cancelled.

Yes.

2. The work has been classed as "unremunerative" in the draft order instead of "remunerative" as classed by the Superintending Engineer, probably because the additional revenue now anticipated from the work by the Collector is only Rs. 325 against Rs 1,043, as was originally expected by the Superintending Fngineer. Under paragraph 1919 II (ii) of the Code, new distributaries or works to increase canal

discharges, etc., are classed as "remunerative" irrespective of the return anticipated therefrom. Orders are requested whether the classification of the work as "unremunerative" should be retained.

3. It is unnecessary to circulate the amended draft order to Financial or Honourable Member.

T.S.R.—9-10-12.

M.S.V.—9-10-12.

Under Secretary—

A typed copy of order revised is submitted for initials. Submitted that it may issue.

B.G.R.—12-10-12.

Secretary—

F.E.M.—12-10-12.

Issue.

H.E.C.—12-10-12.

[Issued as G.O. No. 465 I., dated 28th October 1912.]

PUBLIC WORKS DEPARTMENT,

IRRIGATION BRANCH.

Tabling Abstract.

Anaiyur distributary of the Thandalai offtake, 4th Branch channel Periyar system -- Sanctioning an estimate amounting to Rs 15,084 for changing the head of and improvements to the --

Cross References.

Canal and channels, Periyar System.

Read the following :—

3.9.12

Print { Note by the Chief Engineer for Irrign. R.O.C. No. 1389/11 d/ } Pages 54-59 c/f
{ Classified Abstract estimate amounting to Rs 15,084. } Page 60 c/f

296

Circulated to

Encls: 1 file of plans 14 sheets
1 file of estimates with data

Print Notes

ORDER—No. 465 I dated 28-10-'12

Bess

The estimate for changing the head of and making improvements to the Anaiyur distributary of the Thandalai offtake, 4th Branch channel, Periyar system, amounting to Rs 13,120 or Rs 15,084 including the establishment charge, is sanctioned.

2. This sanction is registered as No. 80 I of 1912-13 and will expire

on the 31st March 1914.

3. The work is classed as ---
~~'Unremunerative'~~. "Remunerative"

4. The attention of the Accountant-General is drawn to paragraph 4 of the foregoing note by the Chief Engineer for Irrigation.

Issue

12/10/12 12/10/12

DESPATCHED
12 OCT 1912

12·10·12

To

The Chief Engr. for Irrign.
,, Supg. Engr. 6th Circle, in M/s with plans & Estimate. 29·10·12
,, Revenue Dept.
,, Financial Dept.
,, Accountant-General.

18-10-12

18/10

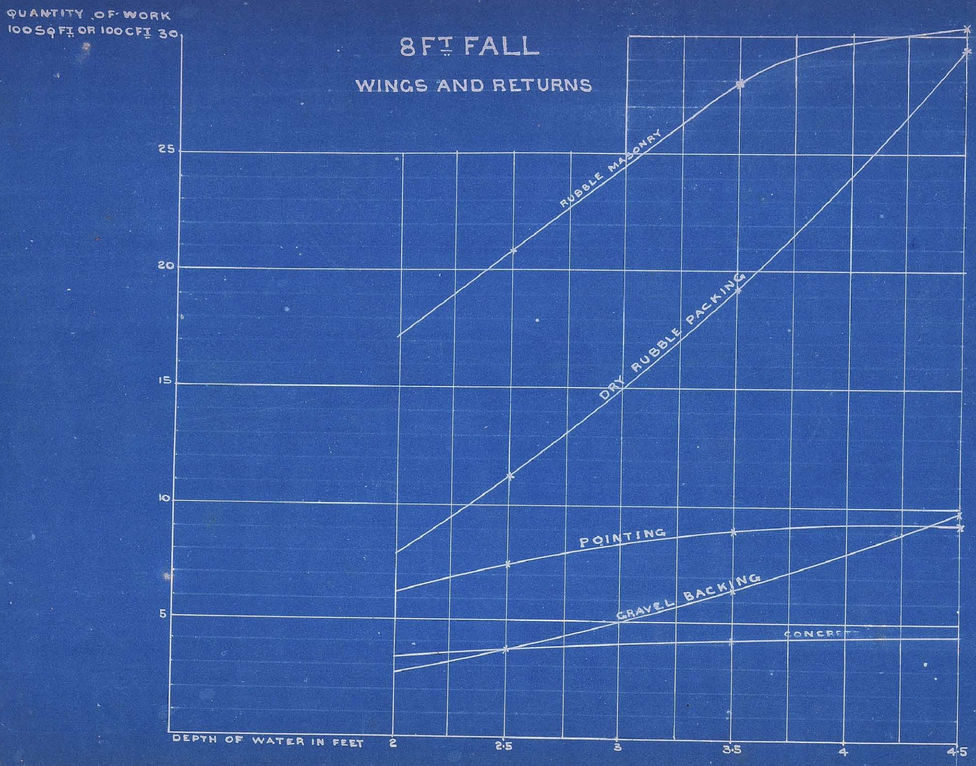
24/10

18/10 465

3

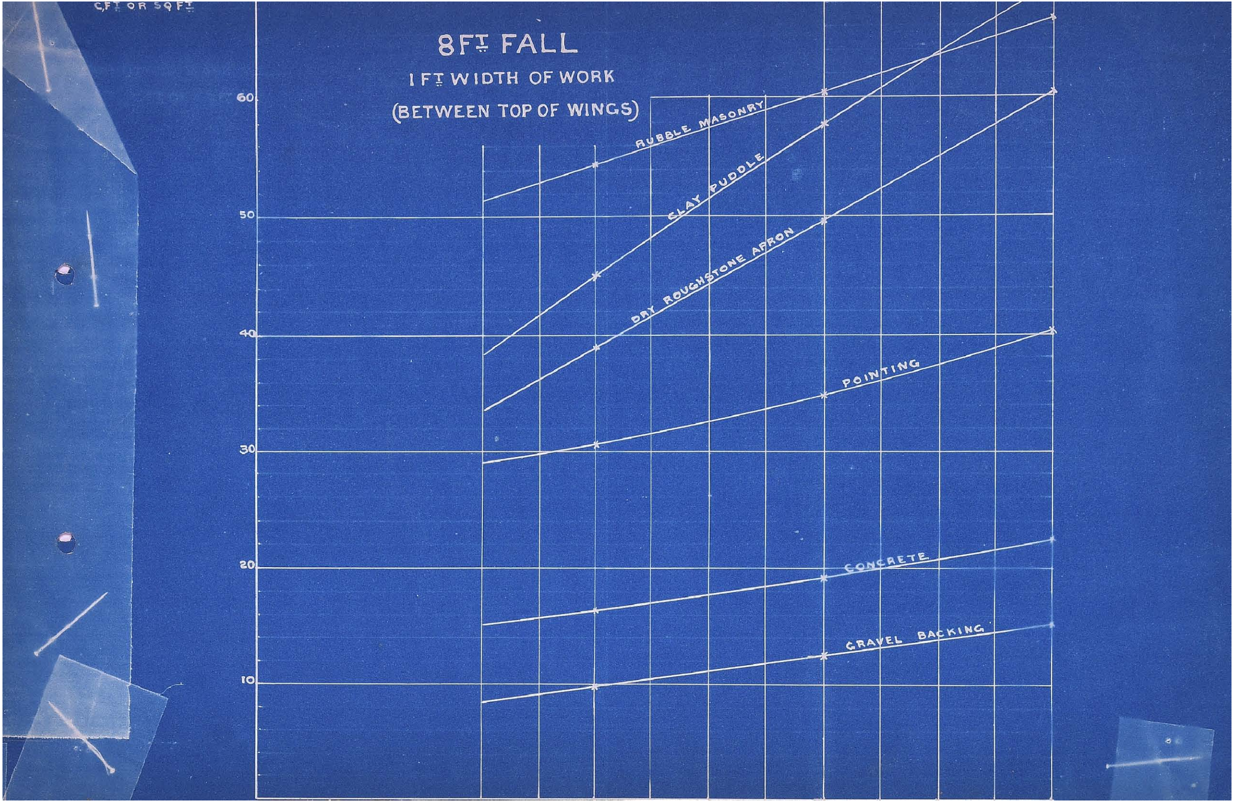
4654

40



QUANTITY OF WORK
100 SQ FT. OR 100 CFT.
8 FT. FALL
WINGS AND RETURNS
30
25
20
15
10
5
RUBBLE MASONRY
DRY RUBBLE PACKING
POINTING
GRAVEL BACKING
CONCRETE
DEPTH OF WATER IN FEET
2
2.5
3
3.5
4
4.5

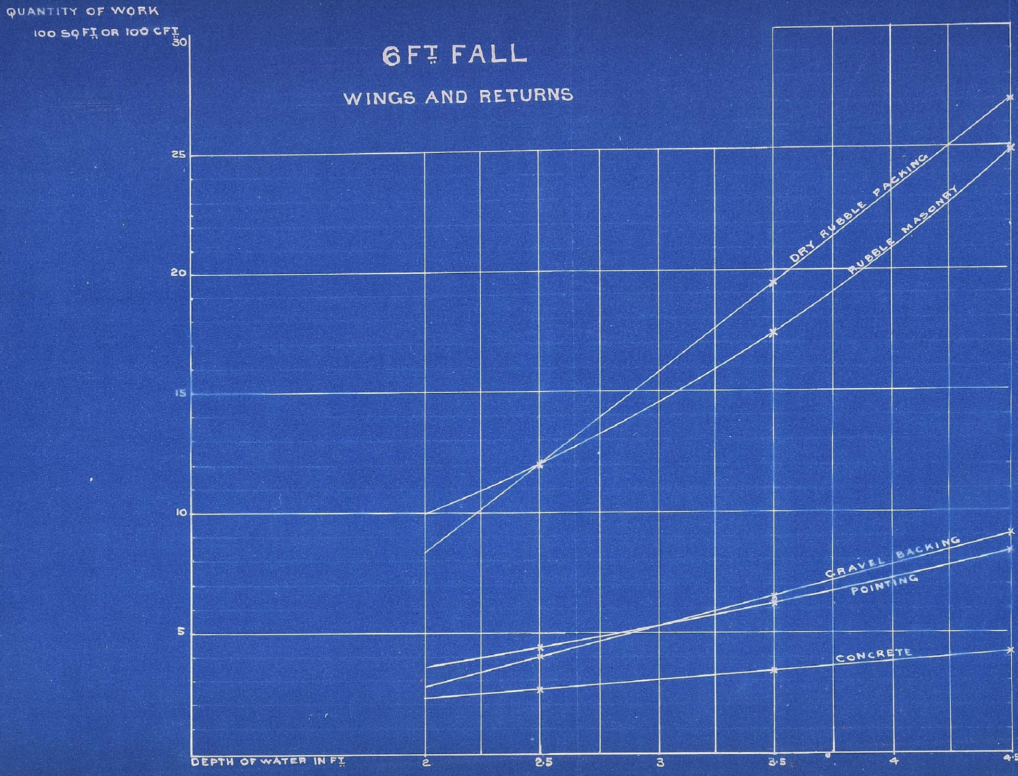
SUPG. ENGINEER'S OFFICE
3 — FEB 1911
P. W. D.
KISTNA RESERVOIR PROJECT


C.FT OR SQ FT
8 FT FALL
1 FT WIDTH OF WORK
(BETWEEN TOP OF WINGS)
60
50
40
30
20
10
RUBBLE MASONRY
CLAY PUDDLE
DRY ROUGHSTONE APRON
POINTING
CONCRETE
GRAVEL BACKING.

SUPG. ENGINEER'S OFFICE
3 FEB 1911
P. W. D.
RESERVOIR PROJECTS

6 FT. FALL

WINGS AND RETURNS

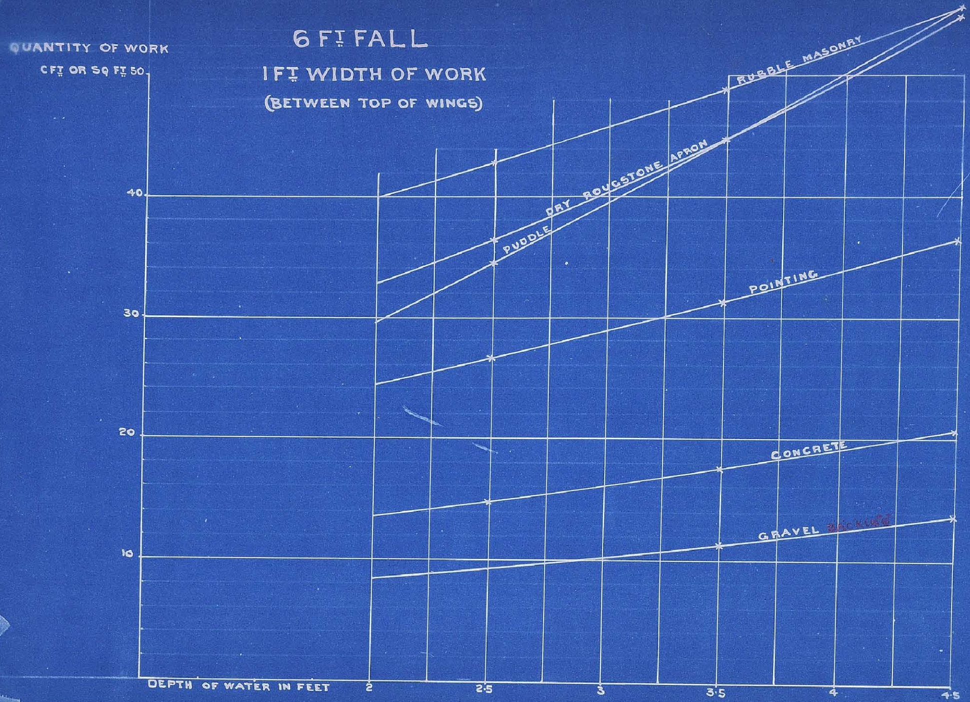


SUPG. ENGINEER'S OFFICE,
No.
3 - FEB 1911
KISTNA RESERVOIR PROJECT

6 FT FALL

1 FT WIDTH OF WORK

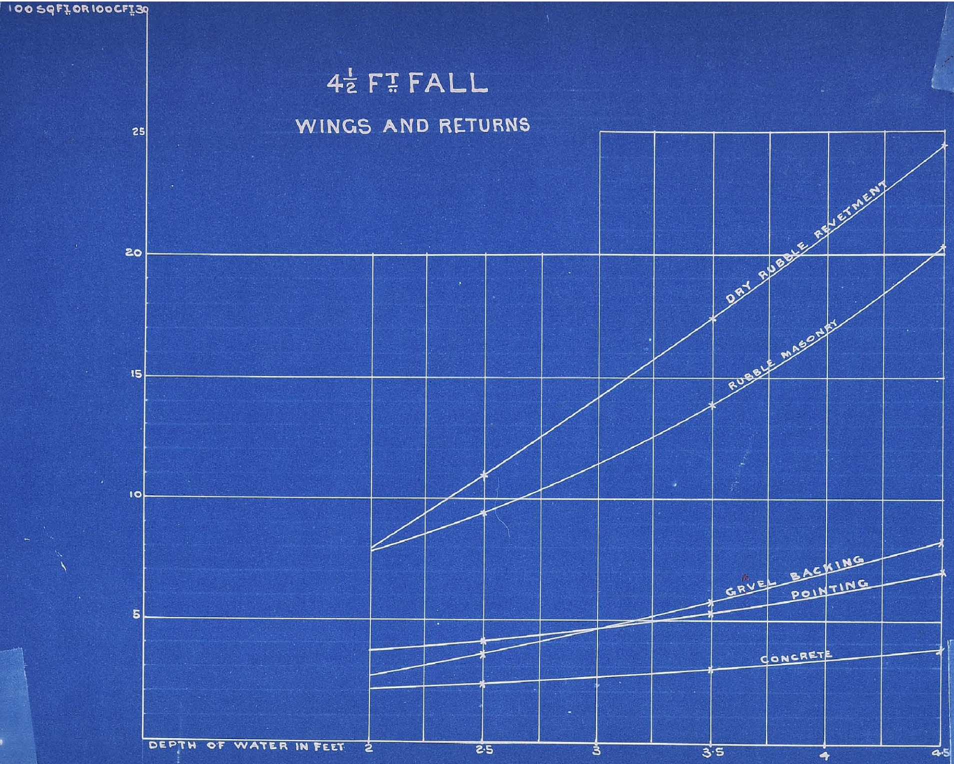
(BETWEEN TOP OF WINGS)



SUPG. ENGINEER'S OFFICE
3 FEB 1911
KISTNA RESERVOIR PROJECT

4½ FT. FALL

WINGS AND RETURNS

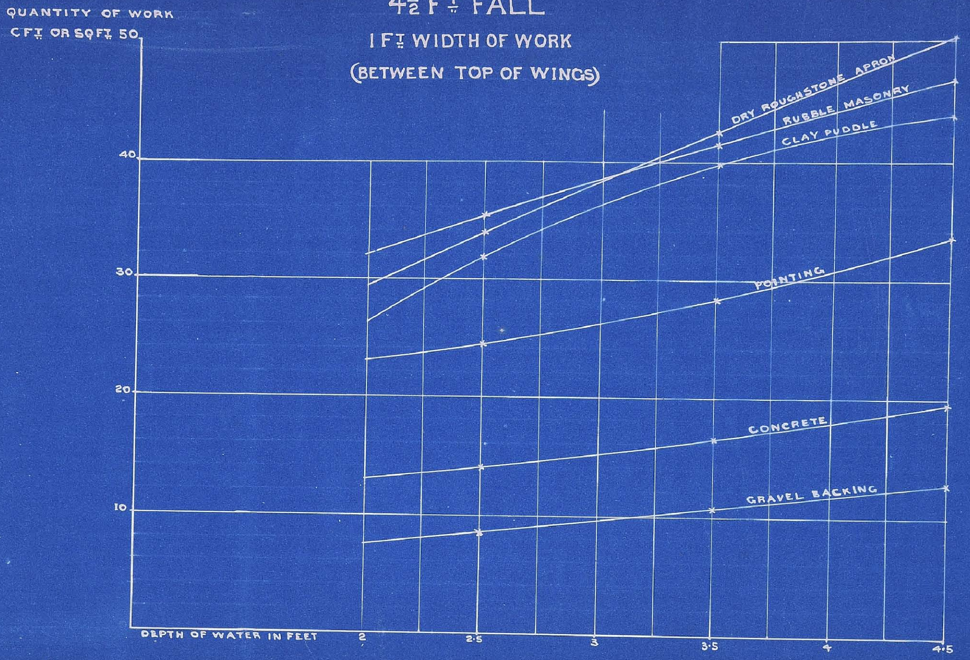


SUPDG. ENGINEER'S OFFICE
RESERVOIR PROJECTS
3 FEB 1911
P. W. D.

4½ FT. FALL

1 FT. WIDTH OF WORK

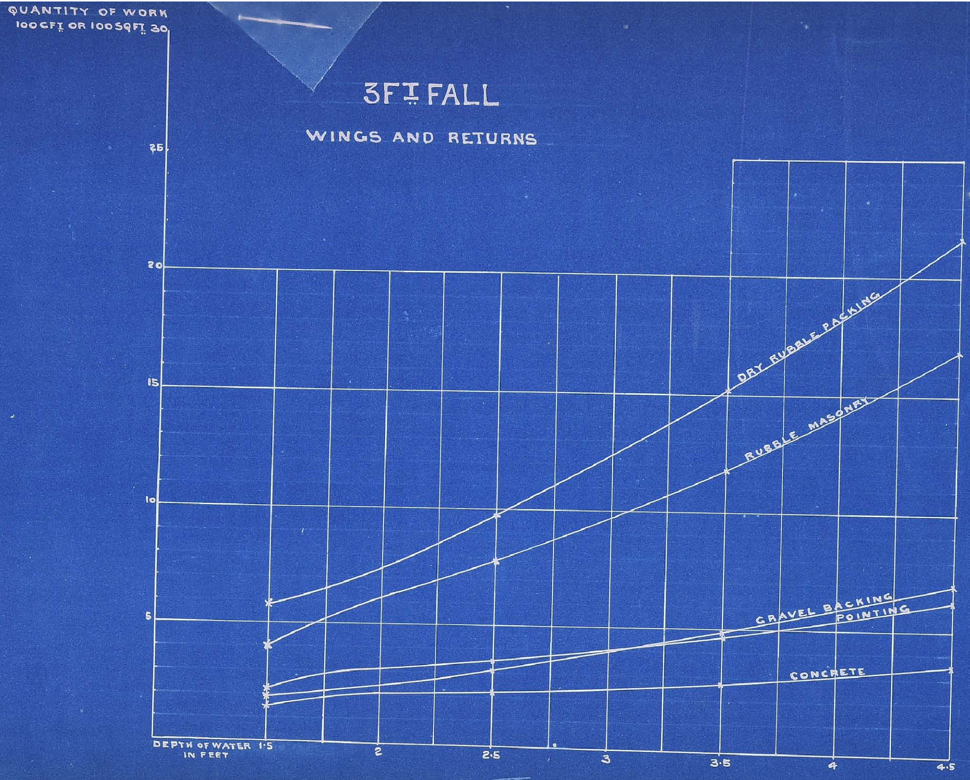
(BETWEEN TOP OF WINGS)



SUPG. ENGINEER'S OFFICE
No.
3 – FEB 1911
RESERVOIR PROJECT

3FT. FALL

WINGS AND RETURNS

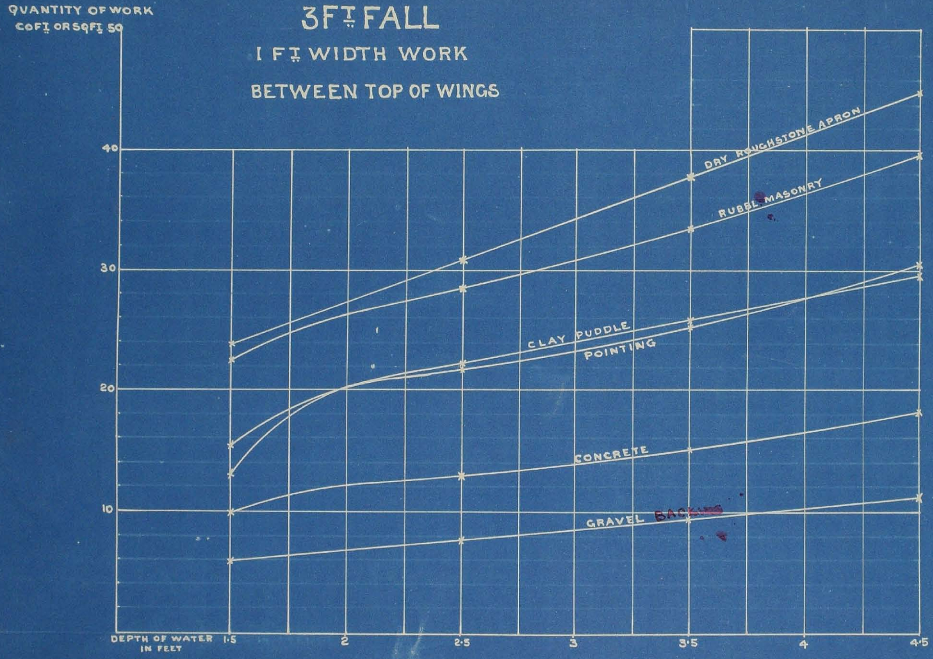


G. ENGINEER'S OFF... PROJECTS
...TNA RESERVOIR
No.
3 FEB 1911
P. W. D.

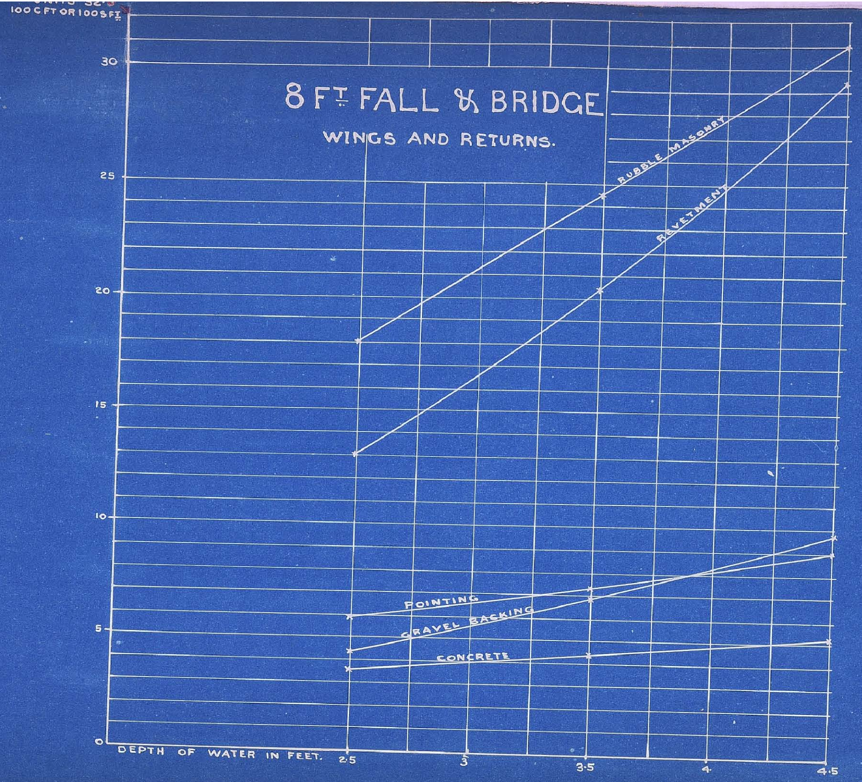
3 FT. FALL

1 FT. WIDTH WORK

BETWEEN TOP OF WINGS

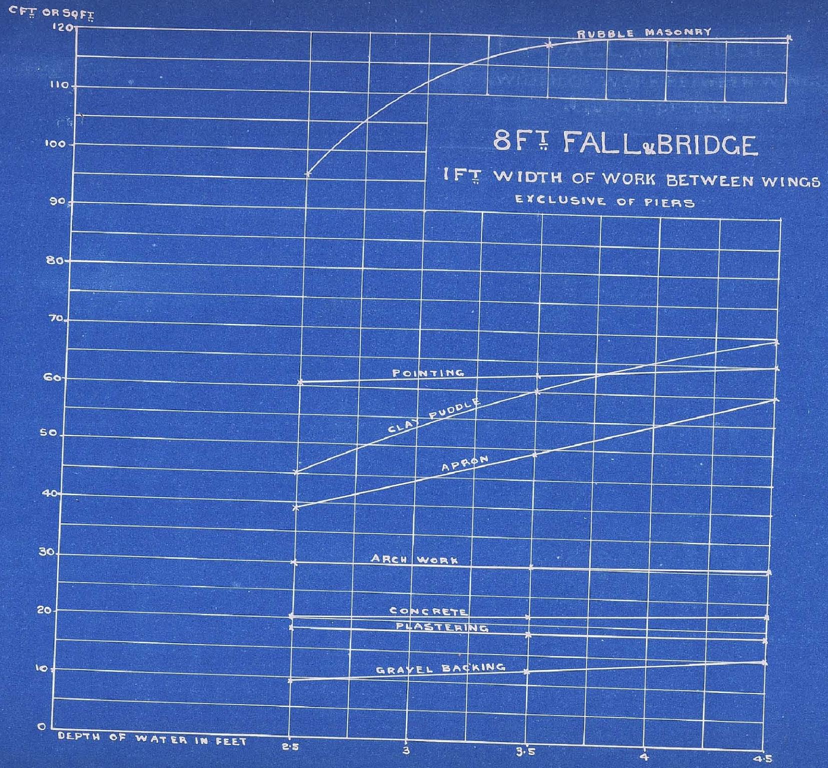


SUPDG. ENGINEER'S OFFICE,
No. 387/1119
3 FEB 1911
R. D.
KISTNA RESERVOIR PROJECTS



100 C FT OR 100 S FT
8 FT FALL & BRIDGE
WINGS AND RETURNS.
RUBBLE MASONRY
REVETMENT
POINTING
GRAVEL BACKING
CONCRETE
0
5
10
15
20
25
30
DEPTH OF WATER IN FEET.
2.5
3
3.5
4
4.5

SUPDG. ENGINEER'S OFFICE.
GA... Y & ...TNA RESERVOIR PROJECTS.
No.
3 FEB 1911
P. W. D.



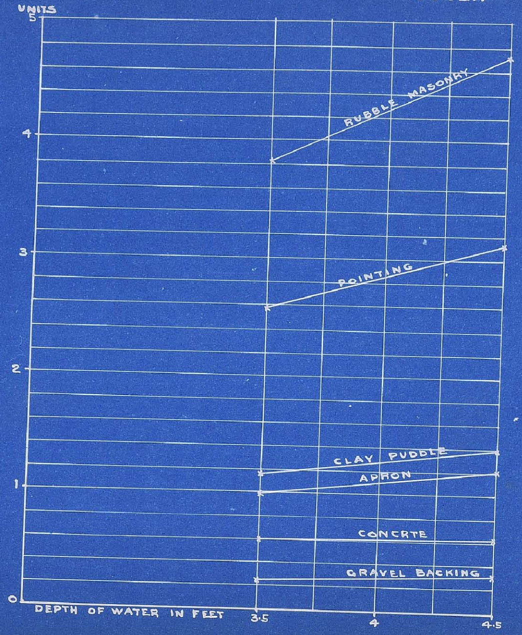
8FT. FALL & BRIDGE
1FT. WIDTH OF WORK BETWEEN WINGS
EXCLUSIVE OF PIERS
CFT. OR SQFT.
120
110
100
90
80
70
60
50
40
30
20
10
0
DEPTH OF WATER IN FEET
2·5
3
3·5
4
4·5
RUBBLE MASONRY
POINTING
CLAY PUDDLE
APRON
ARCH WORK
CONCRETE
PLASTERING
GRAVEL BACKING

G. ENGINEER'S OFF
No.
3 FEB 1911
P. W. D.
TNA RESERVOIR PROJECTS

8 FT. FALL & BRIDGE

1 PIER

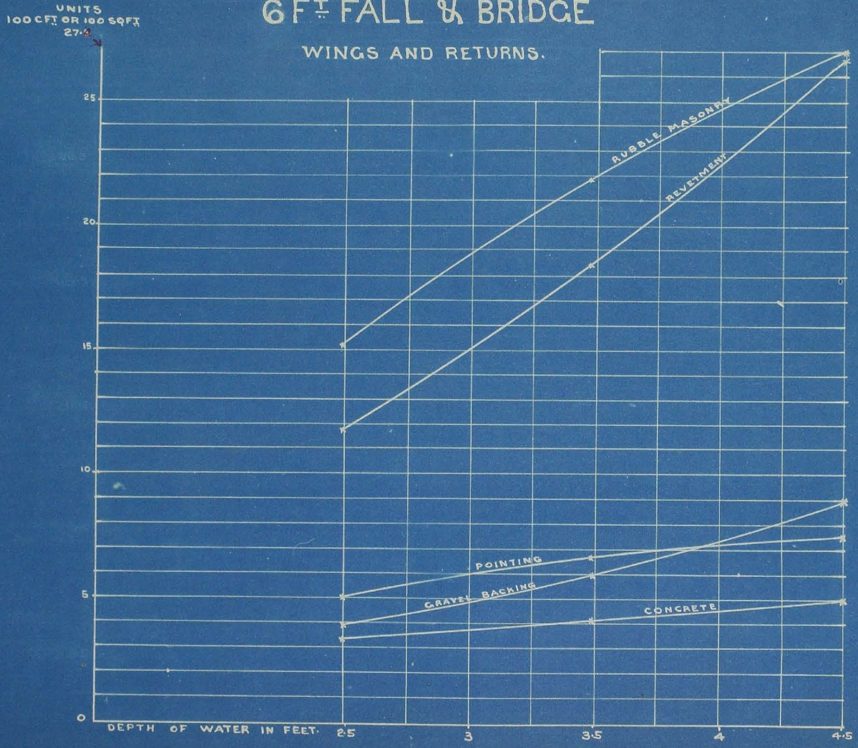
100 cft or 100 cft



ENGINEER'S OFF
KISTNA RESERVOIR PROJECTS
No.
3 FEB 1911
P.W.D.

6 FT. FALL & BRIDGE

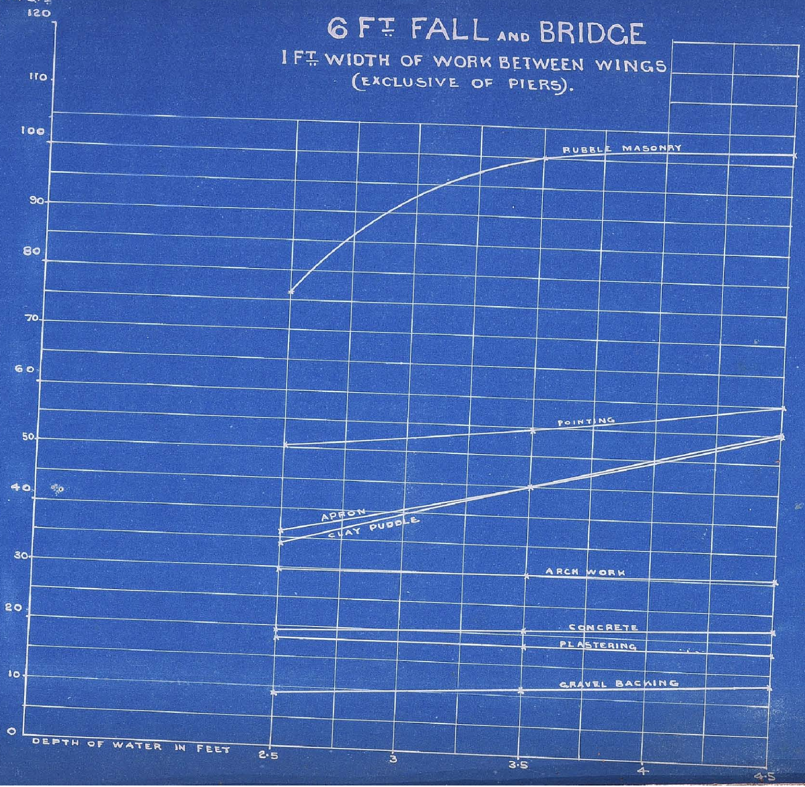
WINGS AND RETURNS.



SUPG. ENGINEER'S OFFICE
3 — FEB 1911
M.D.

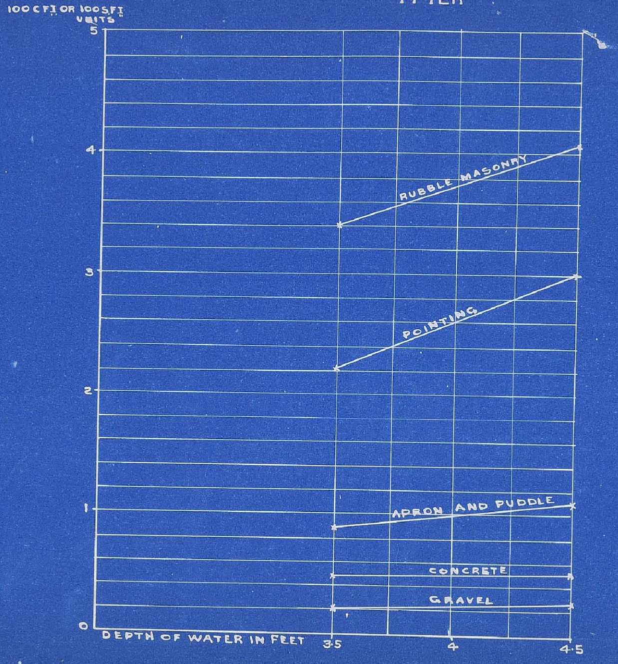
6 FT. FALL AND BRIDGE

1 FT. WIDTH OF WORK BETWEEN WINGS
(EXCLUSIVE OF PIERS).



SUPG. ENGINEER'S OFFICE
3 - FEB 1911
GAUHATI ... RESERVOIR PROJECT

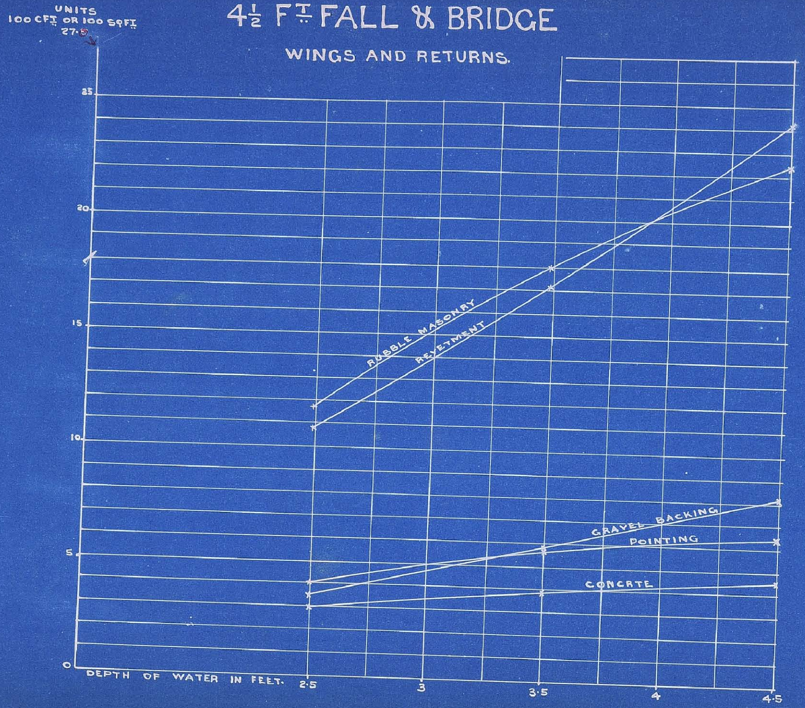
6 FT. FALL & BRIDGE
1 PIER



SUPG. ENGI... FFICE
CAUVERY & KISTNA ... PROJECTS.
3 FEB 1911

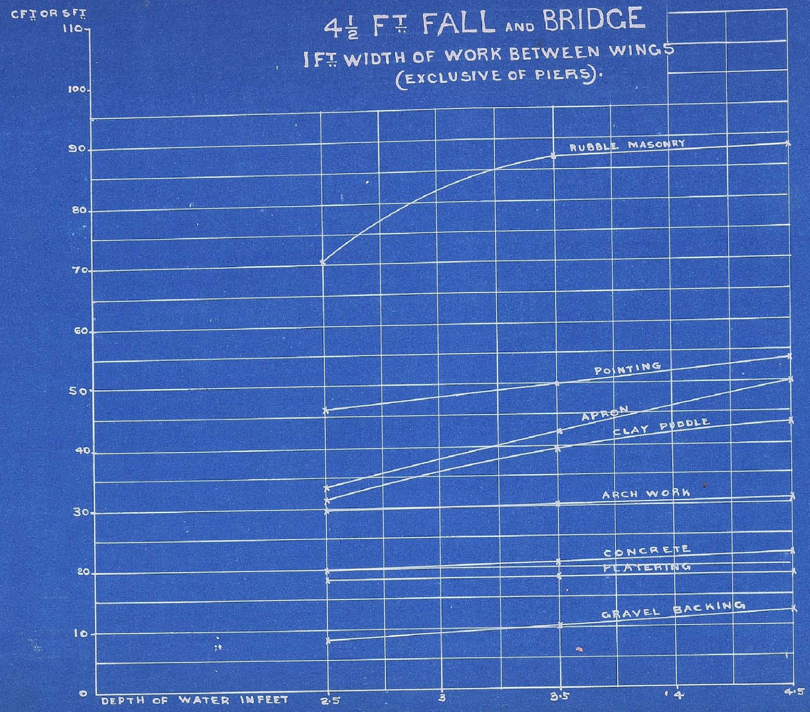
4½ FT. FALL & BRIDGE

WINGS AND RETURNS.



4½ FT. FALL AND BRIDGE

1 FT. WIDTH OF WORK BETWEEN WINGS (EXCLUSIVE OF PIERS).

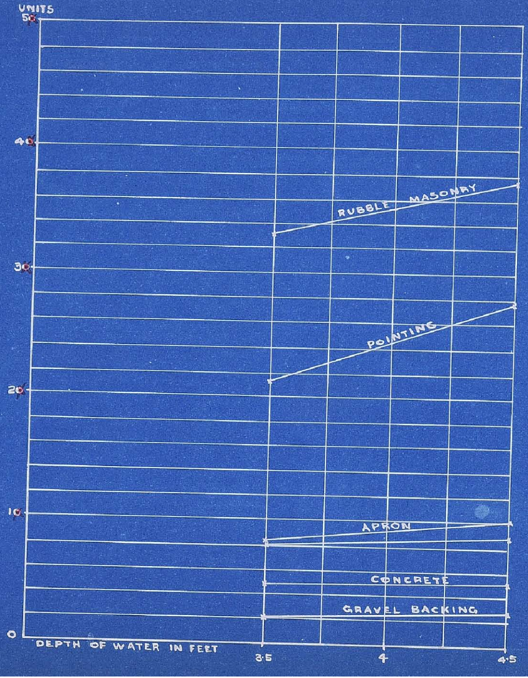


SUPG. ENGINEER'S OFFICE
3 FEB 1911
P. W. D.
CAUVERY & KISTNA RESERVOIR PROJECTS.

4½ FT. FALL & BRIDGE

1 PIER

100 cfr or 100 sfr

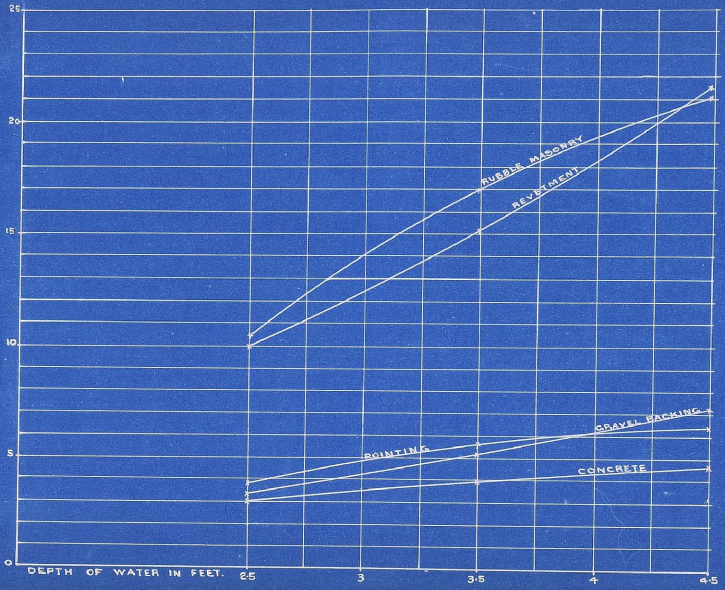


SUPG. ENGINEER'S OFFICE
No. 3 FEB 1911
P. W. D.
CAUVERY & KISTNA RESERVOIR PROJECTS.

3 FT. FALL & BRIDGE

WINGS AND RETURNS.

UNITS
100 CFT OR 100 SQFT

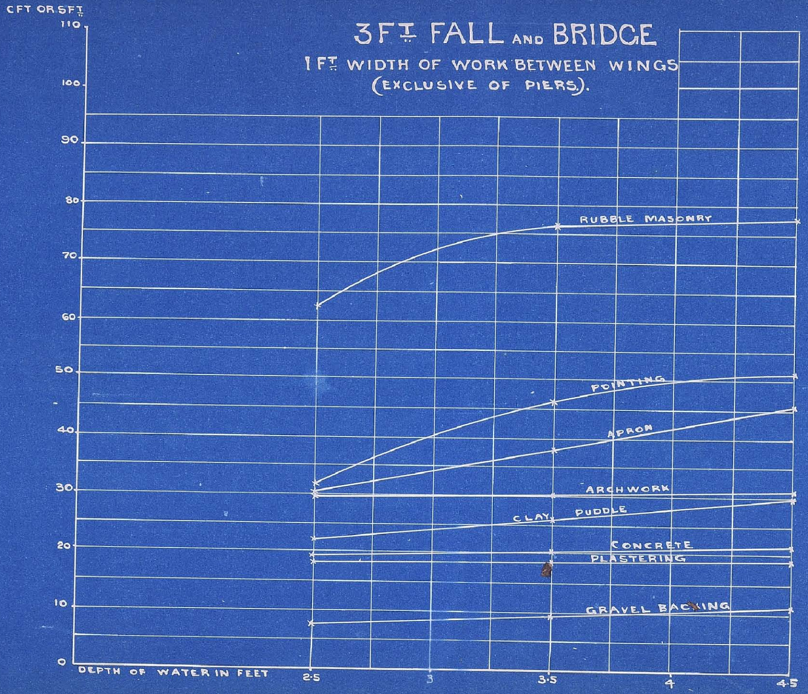


SUPG. ENGINEER'S OFFICE
CAUVERY & KISTNA RESERVOIR PROJECTS.
No.
3 FEB 1911
P. W. D.

3 FT. FALL AND BRIDGE

1 FT. WIDTH OF WORK BETWEEN WINGS

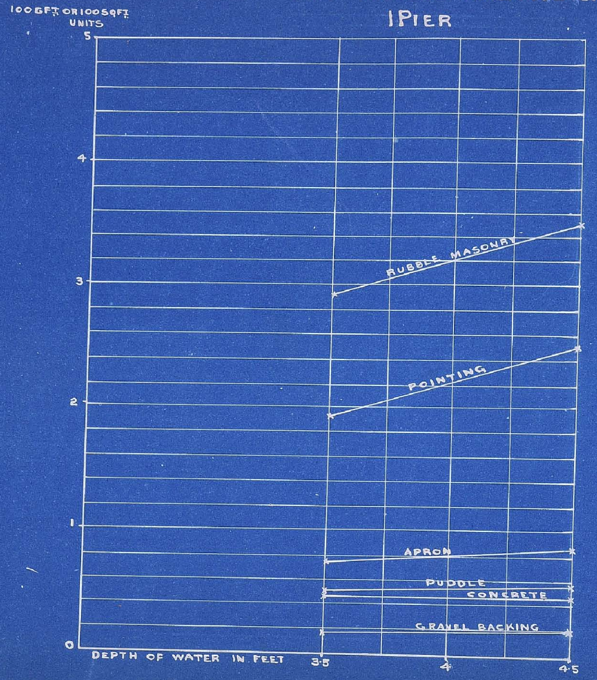
(EXCLUSIVE OF PIERS).



SUPG. ENGINEER'S OFFICE
No.
3rd FEB 1911
P.W.D.
CAUVERY & KISTNA RESERVOIR PROJECTS

3FT. FALL & BRIDGE

1 PIER



SUPG. ENGINEER'S OFFICE
3 FEB 1911
P. W. D.
CAUVERY & KISTNA RESERVOIR PROJECTS

PUBLIC WORKS DEPARTMENT,

IRRIGATION BRANCH.

Tabling Abstract.

Anaiyur distributary of the Thandalai offtake, 4th Br. channel, Periyar System. :—

An estimate amounting to Rs 15,084 for changing the head of and improvements to the ——— approved and forwarded to the Govt. of India for sanction.

Cross References.

Canal and channels, Periyar System

Read the following :—

54–59 c/r

Print { Note by the Chief Engineer for Irrign. R.O.C. No. 1389/11 d/
Classified Abstract Estimate amounting to Rs ~~15,820~~ 15084. (p. 60 c/r)

Circulated to

ORDER—No. ; dated

The estimate for changing the head of and making improvements to the Anaiyur distributary of the Thandalai offtake, 4th Branch channel, Periyar System amounting to Rs 13,120 or Rs ~~15820~~ 15,084 including the establishment charges is ~~approved~~ sanctioned. 3. The work is classed as ~~'Unremunerative'~~ "Remunerative", ~~and will probably be completed by the 31st March~~ expire 1914.

2. This sanction is registered as no. ... of 1912-13 and will expire on the 31st March 1914.

To

The Chief Engr. for Irrign.
" Supg Engineer 6th Circle ...
" Revenue Dept
" Financial Dept
" Accountant General

4 The attention of the AG is drawn to para 4 of the Engineer's note by the ...

Cancelled
14/10/12

cf. para 1919 (v) (a). P.W. Code. Vol II.

3. The following letter will be sent

To

The Secretary to the Govt. of India,

P.W.D.

Sir,

I am directed to forward a copy of the Proceedings of this Government No. 1, dated 1912 approving an estimate of Rs ~~15,820~~ 15084 for changing the head of and improvements to the Anaiyur distributary of the Thandalai offtake, 4th Branch channel, Periyar system and to request that in the circumstances explained in the Chief Engineer's note printed with the Proceedings, the sanction of the Govt. of India to the estimate may be obtained and communicated at an early date.

3/9/12 D.S. 3/9/12 S.

Documents accompanying:-

1. Copy of the Proceedings referred to.
2. Plans and estimate.

3.9.12

PUBLIC WORKS (IRRIGATION) DEPARTMENT.

GOVERNMENT OF MADRAS

From

The Hon'ble Mr. H.E. C L E R K,

Secretary to Government, P.W.D.,

General and Irrigation.

To

The Secretary to the Government of India,

Public Works Department.

Cancelled

Ootacamund, dated the October 1912.

Sir,

I am directed to forward a copy of the Proceedings of this Government No. I, dated 1912 approving an estimate of Rs15,084 for changing the head of and improvements to the Anaiyur distributary of the Thandalai offtake, 4th Branch channel, Periyar system, and to request that, in the circumstances explained in the Chief Engineer's note printed with the Proceedings, the sanction of the Government of India to the estimate may be obtained and communicated at an early date.

I have the honour to be,

Sir,

Your most obedient servant,

[signature] 3/10/12

for Secretary to Government.

Documents accompanying:-

1. Copy of the Proceedings referred to.
2. Plans and estimate.